

WORLD METEOROLOGICAL ORGANIZATION

IPET-SUP-1/Doc. 4
(6.III.2014)

COMMISSION FOR BASIC SYSTEMS
OPEN PROGRAMME AREA GROUP ON INTEGRATED OBSERVING SYSTEMS

INTER-PROGRAMME EXPERT TEAM ON SATELLITE UTILIZATION AND
PRODUCTS

ITEM: 4

FIRST SESSION

Original: ENGLISH

GENEVA, SWITZERLAND, 16-19 MARCH 2015

ACTION REVIEW AND RELEVANT MEETINGS

(Submitted by the Secretariat)

Summary and Purpose of Document

To present the status of ET-SUP Actions, and to review results from WMO and related meetings of relevance to the session.

ACTION PROPOSED

The session is invited to note the information in this document.

Appendix: A. ET-SUP Actions (Status 3 March 2015)

SUMMARY

The following summarizes the outcome of WMO and related meetings of relevance to the Team held since the 8th session of ET-SUP.

The status of ET-SUP Actions is given as Annex to this document.

Coordination Group for Meteorological Satellites, 42nd session, May 2014, Guangzhou, China

Discussion topics included:

- Ensuring the preparedness of users to the new generation of satellites (and SATURN portal)
- Use of satellite data in WMO Climate Assessments
- Emergency satellite support to disaster risk reduction
- SCOPE-Nowcasting
- Satellite data distribution and dissemination (RARS, Himawari-8, etc)
- International Scientific Working Group matters (ITSC, IROWG)
- The RA II WIGOS Project to Develop Support for NMHSs in Satellite Data, Products and Training
- VLab, EUMETSAT and CMA training activities

CGMS also updated the [CGMS High-Level Priority Plan 2014-2018](#) which addresses IPET-SUP priorities, such as coordinated global satellite data dissemination and read-out services, enhancing data access and utility (e.g., through harmonized metadata, see items INF.5.1 and INF.5.2), enhanced quality of satellite data and products, and user outreach and training. CGMS agreed on a number of IPET-SUP-relevant [Actions and Recommendations](#), as part of the [final meeting report](#). The most relevant ones are:

- WMO to establish a dialogue among CGMS satellite operators and the WMO Disaster Risk Reduction (DRR) programme to identify regional pilot actions for enhancing the use of satellites in support of DRR (Plenary/A42.02)
- WMO to initiate a dialogue with Indian Ocean satellite operators and clarify which data are essential in the sense of Resolution 40, in view of the meteorological requirements in the region (WGIII/A42.01)
- EUMETSAT and ISRO will address the technical issues to accommodate high-resolution half-hourly data from INSAT-3D on dissemination means (WGIII/A42.02)
- NOAA to report at the first WG-III Intersession meeting on its plans regarding the possibility of pre-operational dissemination of GOES-R data via e.g. GEONETCast-Americas both as a risk reduction measure and as a way to reap the earliest benefit of the new system (WGIII/A42.04)
- EUMETSAT and CNSA to report at CGMS-43 on the progress of EUMETSAT-SOA collaboration on the dissemination of HY-2 data in near real time (WGIII/A42.07)
- CGMS members to nominate focal points that would work with the WMO Secretariat in populating the PAG, initially for one year; such nomination could take into account current membership of the WMO Expert Team on Satellite Utilization and Products (ET-SUP) (WGIV/A42.04)
- CGMS Members to provide detailed comments on the Reference User Readiness Project to WMO (WGIV/A42.05)

66th WMO Executive Council, June 2014 (including Consultative Meeting on High-Level Policy on Satellite Matters, 12th session)

Schedule of CM Meetings

Council agreed Resolution 10 (EC-66) "Schedule of Consultative Meetings on High-Level Policy on Satellite Matters", considering inter alia

- That, as satellites have become the most important source of data assimilated in numerical weather prediction models, WMO must assure increasing emphasis and strategic discussions on how these data could be assimilated and used by NMHSs,
- The increase in the number of related satellite-focused meetings which reduces the availability of senior satellite agency officials for annual Consultative Meetings,
- The improvement to the effectiveness of the meetings to be expected from increased participation by senior satellite agency officials, particularly for addressing the requirements of monitoring the Earth's climate from space,

Council therefore decided to hold the Consultative Meetings on High-level Policy on Satellite Matters (CM) at least every two years and to schedule the meetings in advance of Executive Council or World Meteorological Congress sessions; it further decided that greater emphasis should be placed on discussion of critical satellite matters in the agenda of all WMO constituent body sessions, including reinstating a specific agenda item for the Executive Council and Congress.

Impact assessments of observing systems

The Council also noted that CM-12 had discussed the socio-economic benefits of satellite programmes. As WMO Members and their space agencies have to manage priorities in an increasingly resource-constrained environment, it is important to evaluate and document these socio-economic benefits in order to assist the decision process on new satellite programmes. In particular, socio-economic benefit assessments should provide an objective basis to inform the transition of mature Research and Development capabilities to an operational status, and to secure sufficient resources to support the development of applications. Recalling the highly successful series of WMO Impact Workshops (e.g. Sedona, 2012), the Council encouraged broadening the assessment of the impact of observing systems on user applications beyond numerical weather prediction.

Ensuring user readiness

Noting the considerable enhancement of capabilities with the upcoming new generation of geostationary satellites of Japan, China, the USA, the Republic of Korea, the Russian Federation, and EUMETSAT in the 2014–2019 period, the Council welcomed the development of the Satellite User Readiness Navigator (SATURN) online portal, which provides users with a unique entry point to information on these new satellite systems. The Council asked the Secretariat to continue maintaining this information resource and urged all operators of satellites addressed by SATURN to provide regular and timely updates.

International exchange of climate data and products

The CM session expresses strong support to the general approach to international exchange of climate data and products contained in the [WMO Executive Council Draft Resolution on climate data policy and its Annex](#). The latter proposes *inter alia* that “all available climate-relevant satellite data and products” be exchanged without charge and with no conditions on use. It underlines however the specific challenges of the generation and long-term preservation of satellite-based climate data records. There is thus general agreement that CEOS and CGMS space agencies should be given an opportunity to provide comments on the Draft Resolution including agencies' views regarding the data policy both for sensor data (e.g., radiances) and for derived, higher-level products. It is thus recommended that the WMO Secretary-General inform the space agencies of the draft Resolution adopted by the Executive Council and invite them to provide feedback by 31 Oct 2014, so that this feedback can be taken into account by WMO Members at the seventeenth Congress. [Done through January 2015 circular letter]

Data exchange (in WIGOS context)

The Council recognized the importance of the free and unrestricted exchange of data and products necessary for the effective implementation of WIGOS, and the need to integrate observations

supporting a broad range of application areas from a large and heterogeneous variety of sources, both NMHS and non-NMHS owned, into the WIGOS framework; in this regard, the Council requests ICG-WIGOS to investigate whether the existing data policies and protocols in place for the Global Observing System and other WIGOS components adequately covers the requirements for WIGOS, and that the Group provide a report to Cg-17 on this issue.

The Council highlighted the importance of third-party (non-NMHS) observations for Members to provide enhanced services and noted that the WIGOS integration of these data is a critical contribution to WMO, its Members and its application areas. The Council further urged the Secretariat to actively reach out to and establish agreements with partner organizations with observing systems activities (e.g. the Copernicus marine monitoring service), with the particular goal of establishing common terminology regarding metadata standards and, whenever possible, common vocabularies.

Commission for Basic Systems, Extraordinary Session 2014 (September 2014)

Satellite Data Dissemination Strategy and DRARS

The Commission was pleased to note that a draft strategy for improved availability and accessibility of satellite products had been presented to CGMS, as outlined in Annex to this paragraph. It recommended refining this strategy in consultation with ET-SAT, ET-SUP, and OPAG ISS with a view to submit it to the seventeenth session of CBS. In particular, it welcomed the steps taken to develop the Direct Readout Acquisition and Relay of Satellite Data (DRARS) which will follow and enhance the Regional ATOVS Retransmission Services (RARS), and recommended to complete a Guide on DRARS as part of the WIS reference documentation

IPET-SUP

The Commission approved the terms of reference of the IPET-SUP.

User Preparation to New Satellites

The Commission recommended to NOAA to consider pre-operational dissemination of selected GOES-R data via GEONETCast-America as a risk reduction measure for South American users.

It stressed the need for all concerned NMHSs to set up user preparation projects in advance of the new geostationary launches, and urged the satellite operators to provide regular and timely updates to SATURN.

Regional Association III (South America), 16th session (September 2014)

The Association approved the draft Terms of Reference of the Coordination Group on Satellite Data Requirements in RA III and RA IV as a technical advisory body of the RA III Working Group on Infrastructure and Technology Development.

Regional Association I (Africa), 16th session (February 2015)

The Association endorsed the RA I Dissemination Expert Group for satellite data as a technical advisory body of the RA I Working Group on Observations and Infrastructure.

Polar Space Task Group, 4th session (Sep/Oct 2014)

Since 2012, the Polar Space Task Group (PSTG) established under EC-PORS initiated a coordinated space agency response to ice sheet observation requirements. Following a detailed 2013-2016 acquisition plan, coordinated interferometric Synthetic Aperture Radar (SAR) imagery using multiple agency sensors covering Antarctica and Arctic areas is being recorded. The goal is to achieve full coverage of most of these areas for at least three consecutive years. Data

acquisition currently involves the space agencies of Canada (CSA), Italy (ASI), and Germany (DLR), supported by the USA (NASA) and Norway (NSC), and with the perspective to also include new European (EC/ESA) and Japanese (JAXA) satellites. The data will be openly available and are expected to provide a significant improvement in monitoring and understanding ice sheet dynamics and mass balance, such as of the Western Antarctic Ice Sheet, and to contribute to further understanding ice sheet mass variability and its impact on sea level.

Since 2013, PSTG also engages with the international scientific community in the areas of permafrost, wet snow, floating ice, and polar prediction (through the WWRP Polar Prediction Project), with a view to coordinate a response by space agencies to consolidated satellite data requirements. To better frame and communicate its activities, PSTG is developing a 2015-2018 strategic plan, in line with its [Terms of Reference](#).

Intergovernmental Board on Climate Services, Second Session (IBCS-2), November 2014

The second session of the IBCS was held in Geneva on 10-13 Nov 2014. Among its [decisions](#), the session:

- Approved the revised terms of reference of the Partner Advisory Committee (hereunder referred as the “PAC”) of the IBCS, which specify functions, responsibilities, membership, mode of operation and financing of the PAC;
- Agreed that urban activities related to climate be included as a specific cross-cutting element within the priority areas of the GFCS;
- Agreed on the further development of the Energy exemplar and on presenting a proposal to the Seventeenth World Meteorological Congress for consideration of Energy as an additional priority sector for GFCS.

Inter-Commission Coordination Group on WIGOS, 4th session (February 2015)

Of relevance to IPET-SUP, the Group discussed:

- Status of the WIGOS Information Resource and OSCAR (see IPET-SUP-1/INF.7)
- The WIGOS Metadata Standard (see IPET-SUP-1/INF.5.2)
- New Manual on WIGOS – Satellite part (see IPET-SUP-1/INF.8)
- Data management and data policy (see IPET-SUP-1/Doc.5.5).
Recognizing the growing availability of data from non-NMHS sources in many regions as low-cost observing equipment becomes increasingly accessible and as recognition of the value of observations in weather-, water-, and climate-sensitive activities grows. A greater number of institutions, businesses, and individuals now collect observations and this provides opportunities to increase the data available to support WMO programmes. Partnerships between NMHS and other institutions were seen as critical, and a number of issues identified (data access, data quality, data policy).
- A future WIGOS [Data Quality Monitoring System](#) (see IPET-SUP-1/Item 11), mainly targeted at improving the quality of the observational data needed for NWP, through (i) automatic distribution of monitoring reports to data providers, and (ii) automatic real-time/near-real-time practices and procedures for follow-up/corrective actions (basic Architecture provided in Figure below).

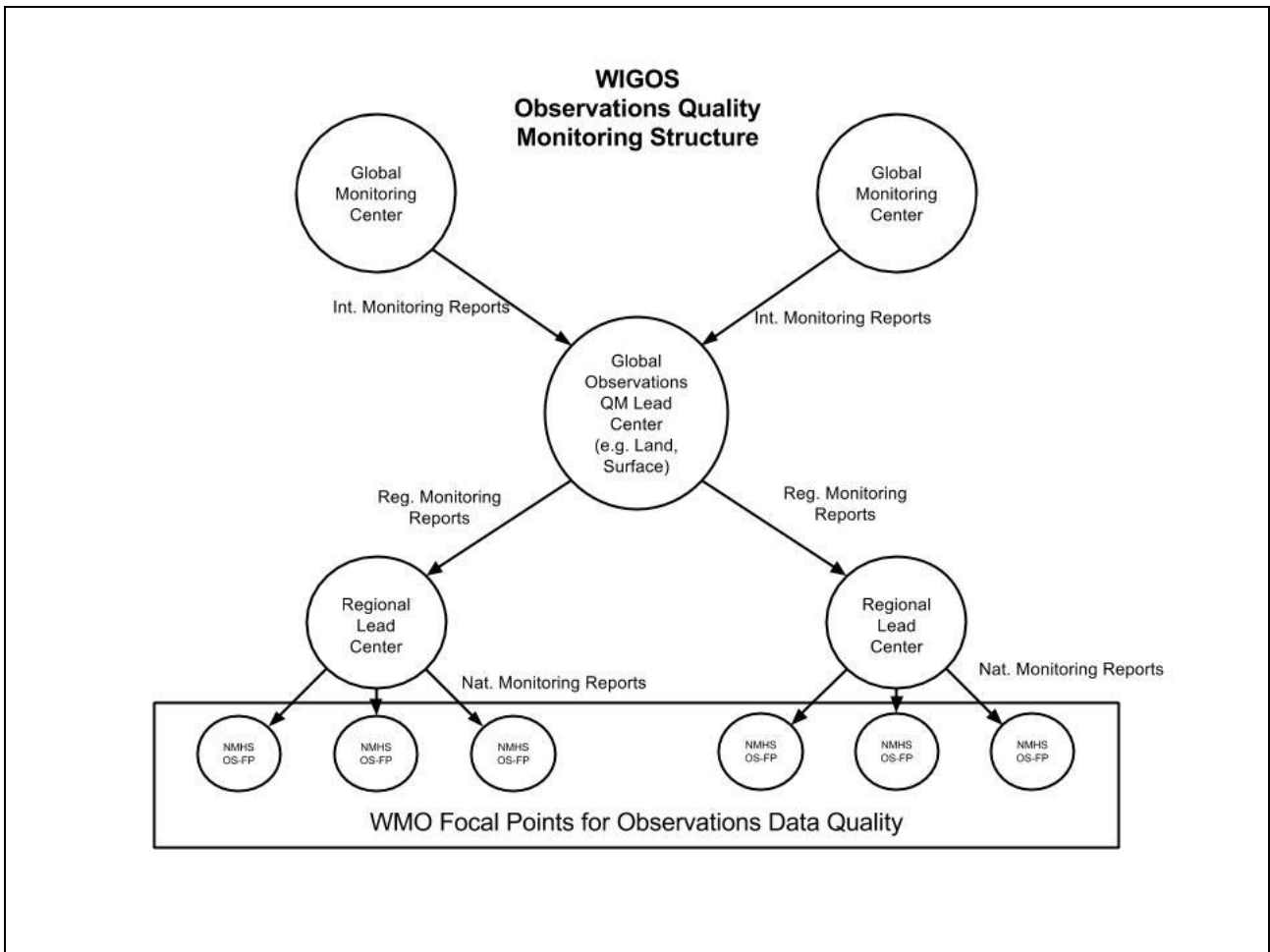


Figure 1: Concept for WIGOS Observations Quality Monitoring Structure

CBS Inter-Programme Expert Team on Observing System Design and Evolution (IPET-OSDE)

Attention is finally drawn to an action from the CBS Inter-Programme Expert Team on Observing System Design and Evolution (IPET-OSDE) which at its [first session](#) (31 Mar – 3 Apr 2015) recommended that all OPAG IOS teams

“review the observing systems capabilities against the 2025 Vision, and inform on which new capabilities may be sufficiently mature to be included in a 2040 Vision” (Action 100).

See also item 7 “Vision on the WIGOS Component Systems in 2040”.

APPENDIX A: ET-SUP Actions (Status 3 March 2015)

Action	Deadline	Status	Last Update
Action 7.4: S. Wannop, L. Machado, A. Rea, H. Kunimatsu and X. Fang to agree on a common template for gathering requirements for data access and exchange, based on their respective practices. Deadline: 1 Dec 2013.	15-Jun	DONE; RA III/IV template ready; adopted by RA I; circulate it with the other Regions for general use; use template in RA V and RA II	15-Oct-14
Action 7.19: CMA VLab CoE to arrange for a distance lecture on the FY-3 product suite for the benefit of all Regions.	Oct-14	CLOSED; Lecture provided at a training event together with the 5th AOMSUC; planned training event on 17-18 Nov 2014; clarify whether lecture has been recorded, or was accessible online	3-Mar-15
ACTION 8.1: X. Fang and H. Murata to facilitate the organization of a satellite user training event in association with the 5th AOMSUC, including a focus on the new generation of satellites (Himawari-8, FY-4A, GEO-KOMPSAT-2A). The CMA and KMA VLab CoEs should be involved. This is consistent with Recommendation 7.3 (ET-SUP-7).	Oct-14	DONE; training event held on 17-18 Nov 2014 together with AOMSUC-5	3-Mar-15
ACTION 8.2: The session recommended that the AOMSUC International Conference Steering Committee discuss the possibility that India could host a future AOMSUC, and that WMO raise this item at the next session of the Committee. The Committee should also consider including a session on tropical cyclone monitoring in the next AOMSUC programme.	Oct-14	DONE; raised in AOMSUC-5 international conference steering committee meeting on 18 Nov 2014; not further pursued since matters of AOMSUC organization and governance dominated the discussion	3-Mar-15
ACTION 8.3: The Coordination Group, with assistance by the Secretariat, to publicize the results of the regional survey, as a WMO publication (by 15 Jul 2014) and by communication to the 2015 NOAA Satellite Conference.	Jul-14	DONE; final version available http://satellite.cptec.inpe.br/geonetcast/es/docs/SDR%20RAII%20AND%20RAIV%20-%20SURVEY%20REPORT%20-%20FINAL%20VERSION.pdf	3-Mar-15
ACTION 8.4: WMO to present a revised vision for the IGDDS to CGMS-42.	May-14	DONE	15-Jul-14
ACTION 8.5: The RARS Implementation Group be convened to manage the transition of RARS to DRARS.	Mar-15	DONE; DRARS Meeting held 11-13 March 2015	13-Mar-15
ACTION 8.6: Secretariat (J. Lafeuille, P. Shi) to submit a draft outline for a DRARS Guide to the upcoming CBS Ext. session in Sep 2014.	Sep-14	DONE. Outline of updated "Satellite Data Dissemination Strategy for Improved Availability of Satellite Data and Products" noted by CBS Ext. 2014 session, and discussed at DRARS Meeting in 2015	13-Mar-15
ACTION 8.7: S. Keogh and the ET-SUP Data Formats Task Group should further develop and expand on the high level cases presented in document ET-SUP-8/Doc.7.1.	Sep-14	DONE. New version available as doc IPET-SUP-1/INF.6; useful to guide development and dissemination of data processing software; recognition of knowledge divide regarding coding between dataset user end, and providers/preprocessing end	3-Mar-15
ACTION 8.8: Secretariat, ET-SUP nominees (Daniele Biron, Mikael Rattenborg) and other experts as needed to engage in CGMS-WMO Task Force on Metadata Standards, by Jun 2014; and report results from this Task Force to WMO Expert Teams under the ICT-ISS (ET-MDRD, ET-DRMM), as appropriate.	Jun-14	DONE; Virendra Singh and Guillaume Aubert nominated as chair and co-chair of Task Force; Daniele and Mikael are nominated members; Task Force met on 14 Oct 2014 and gets back to ET-SUP on specifics	15-Oct-14
ACTION 8.9: Secretariat to update the WMO Website on satellite tools to reflect the availability of the special version of McIDAS-V.	Jul-14	CLOSED; Link to McIDAS-Lite: https://www.wssc.wisc.edu/mcidas/software/mclite/ and confirm whether this is correct	3-Mar-15
ACTION 8.10: ET-SUP chair to communicate with the JCOMM TT-SAT Chair (Joel Dorandeu, MyOcean) to understand better how the two Teams can work together for mutual benefit. This could potentially lead to a joint session with TT-SAT or some other collaborative activity.	30-Jun-14	DONE; first contact made	10-Oct-14

ACTION 8.11: JMA to consider using the WMO RGB standards (http://www.wmo.int/pages/prog/sat/documents/RGB-WS-2012_FinalReport.pdf) in the H-8 product suite, and to report on progress at the next session of the Team.	Mar-15	OPEN; JMA added RGB composites based on MTSAT to their SWFDP website for RA II and V; extended RA II website	15-Jul-14
ACTION 8.12: NOAA NESDIS to consider using the WMO RGB standards (http://www.wmo.int/pages/prog/sat/documents/RGB-WS-2012_FinalReport.pdf) in the GOES-R product suite, and to report on progress at the next session of the Team.	Mar-15	OPEN; promising signs from GOES-R user readiness workshop in June 2014	15-Jul-14
ACTION 8.13: CMA to consider using the WMO RGB standards (http://www.wmo.int/pages/prog/sat/documents/RGB-WS-2012_FinalReport.pdf) in the FY-4A product suite, and to report on progress at the next session of the Team.	Mar-15	OPEN	15-Jul-14
ACTION 8.14: WMO Secretariat to make available the report of the July 2013 IRS EUMETSAT workshop to ET-SUP members.	Jul-14	DONE	15-Jul-14
ACTION 8.15: Secretariat to communicate SATURN to all potential users, including at WMO Executive Council, through all Regional Requirements groups, to all WMO Members via a letter, and through appropriate publications.	Nov-14	OPEN; EC-66 informed through doc and side event; CBS-Ext.(2014) through doc; RAIDEG through presentation; presentations at EUMETSAT and AOMSUC-5 Conferences 2014; ROSH, IMD nominated SATURN focal points, along with EUMETSAT, NOAA, CMA, JMA, KMA; no letter or flyer (yet)	15-Oct-14
ACTION 8.15b: ET-SUP members to provide comments on SATURN content including on the Reference User Readiness Project: https://www.wmo-sat.info/satellite-user-readiness/	Oct-14	DONE; extension to LEO planned (JPSS, Metop, FY-3)	15-Oct-14
ACTION 8.16: A. Rea, S. English to provide an initial review of SATURN, through a dedicated user account.	Jun-14	DONE	15-Jul-14
ACTION 8.17: Secretariat to circulate report on first phase of the project on developing 'Conceptual Models for the Southern Hemisphere' to ET-SUP Members.	Jul-14	DONE	13-Oct-14
ACTION 8.18: X. Fang to contact the Beijing CoE on how to organize a distant lecture on the FY-3 data and products, as per open Action 7.19, to be held in conjunction with the 5th AOMSUC.	Sep-14	CLOSED; see 7.19	15-Jul-14
ACTION 8.19: S. Keogh to explore the possibility of UKMO taking the lead in the organization of a COSPAR/VLab training event on space weather; such an event should be hosted in a developing country.	Sep-14	DONE; UK will take the opportunity to be directly involved in the COSPAR/Vlab training on Space Weather. An event is being organised in Brazil. Discussions on the scope of UK involvement are temporarily on hold until Brazilian co-funding is confirmed, which will likely be after the Brazilian election.	15-Oct-14
ACTION 8.20: Participants are to provide comments on scope, approach, format, and timing of a next WMO survey on the use of satellite data, taking into account previous ET-SUP guidance and regional user surveys.	Jul-14	CLOSED; address at IPET-SUP-1 under item 13.2; credibility of Space Weather-related results in last survey? Extend the range of invitations to Space Weather institutions next time round; allow option to skip sections not relevant to any one institution	3-Mar-15
ACTION 8.21: A. Rea to prepare and circulate a draft communication plan to Team members.	31-Dec-14	CLOSED; addressed in item 15 at IPET-SUP-1	3-Mar-15
ACTION 8.22: A. Rea to facilitate a region-based user survey in RA V through the TT-SUR (and its possible successor). The survey should reference the recent regional survey done in RA III/IV and should specifically target data distribution and visualization issues.	31-Dec-14	OPEN	15-Jul-14
ACTION 8.23: Secretariat to present these topics [themes of proposed COSPAR/Vlab capacity building workshops] and timeline to VLMG-7 for discussion.	Jul-14	DONE	10-Oct-14
ACTION 8.24: Team to develop template for case studies, and scope out the case studies to be carried out, in collaboration with Secretariat and Mark Dowell (JRC and member of JWGC).	31-May-14	DONE	10-Oct-14
ACTION 8.25: Team to agree on questions, and carry out survey with authors of ClimateExchange.	31-May-14	DONE. Survey done with limited return (4 responses). Rely on ET-SUP task team and other contributions to case studies	10-Oct-14
ACTION 8.26: Develop and document 10-12 case studies showing the relevance of satellites for climate services	draft by mid-Nov 2014, final version by Jan 2015	OPEN; Task team meeting held 2-4 Dec 2014 at WMO HQ; draft report in preparation, item INF.4.1	3-Mar-15
ACTION 8.27: The PAG management task team to provide feedback to this demonstration version before WMO EC 2014.	31-May-14	DONE	15-Jul-14

Recommendation	Status	Last Update
RECOMMENDATION 8.1: The management of CCI should consult with ET-SUP and WMO SP Office on the terms of reference of the proposed Task Team, and on its membership.	Informed CCI through WMO Sec for discussion at their 16th session	15-Jul-14
RECOMMENDATION 8.2: The proposed CCI Task Team on satellites should provide a report to the next session of ET-SUP.	through CCI rep on IPET-SUP	3-Mar-15
RECOMMENDATION 8.3: In order to fully address the requirements of all WMO application areas for satellite datasets and products based on the WIGOS, the Team recommends that CBS consider making ET-SUP an Inter-Programme expert team.	Done; approved by CBS Ext(2014)	3-Mar-15
RECOMMENDATION 8.4: ET-SUP recommended that RAIDEG be formally recognized within the working structure of RA I.	Done at RA I-16 in Feb 2015; RAIDEG formally reporting to the RA I Working Group on Observations and Infrastructure	3-Mar-15
RECOMMENDATION 8.5: Co-leads of the RA II WIGOS Project to organize a meeting of the Project Coordination Group in 2014, in conjunction with the 5th AOMSUC.	Meeting planned in conjunction with AOMSUC-6 in Nov 2015	3-Mar-15
RECOMMENDATION 8.6: The session recommended that the Coordination Group be formally endorsed by the upcoming session of Regional Association III, following the endorsement by RA IV in 2013.	Done.	10-Oct-14
RECOMMENDATION 8.7: EUMETSAT should consider the needs of non-EUMETSAT member states of Region VI in its efforts to provide satellite utilization support. These efforts should include WMO where appropriate.	EUMETSAT with support of WMO are in the process of providing DVB-S2 devices to the DAWBEE beneficiary countries; EUMETSAT organizes information days in Albania and Georgia in March and April 2015, respectively	3-Mar-15
RECOMMENDATION 8.8: African partners and EUMETSAT to evaluate the possibility of funding ongoing technical and maintenance support for the four proposed African RARS stations over the lifetime of the infrastructure.	Comments made at 11th EUMETSAT User Forum in Africa	10-Oct-14
RECOMMENDATION 8.9: African partners with support by EUMETSAT to ensure that the new stations produce a suite of derived products that address user requirements expressed through RAIDEG.	Happening under MESA. RAIDEG members will participate in the maintenance contract evaluation and the new station FAT.	15-Jul-14
RECOMMENDATION 8.10: RapidCast managers including NOAA to continue to work with TT-SUR in RA-V to document and respond to user requirements for data to be delivered by RapidCast.	Kelly Sponberg and Agnes Lane to follow up	15-Jul-14
RECOMMENDATION 8.11: The RA II WIGOS Project Coordination Group and RA V TT-SUR should be used as a mechanism to gather user requirements for CMACast.	Status unclear.	3-Mar-15
RECOMMENDATION 8.12: JMA to provide information on HimawariCast to the RA V meeting to be held in Jakarta on 2-8 May 2014.	Done.	15-Jul-14
RECOMMENDATION 8.13: ECMWF should propose a plan (including resources required) for running a community based development of their software to provide unified access to data in several formats. In addition ECMWF should fully publicise its "ecCodes" tools, documentation and training via the WMO web site along with a short-medium term roadmap of how these tools will evolve.	IPET-SUP-1 Item 12.1	3-Mar-15
RECOMMENDATION 8.14: ET-SUP members to explore in their institutions possible support for the community-based development of these ECMWF software tools.		15-Jul-14
RECOMMENDATION 8.15: The organizing committee for the SCOPE-Now casting Pilot Project 2 should involve one expert from the lidar and aircraft communities, respectively, in the proposed activities.	Done; G. Pappalardo (Earlinet) and DLR Falcon rep on list of invitees of VA intercomparison workshop, to be held 29 Jun- 3 Jul 2015 at CIMSS, Madison WI, USA	3-Mar-15
RECOMMENDATION 8.16: SCOPE-CM Executive Panel at its next session to discuss linkages and specific needs of operational users for interim climate data records internationally coordinated by SCOPE-CM, through extending an invitation to such users.	Invited talk on operational climate monitoring requirements for datasets to SCOPE-CM EP-10 23-24 Mar 2015	3-Mar-15
RECOMMENDATION 8.17: SCOPE-CM Secretariat to identify a successor for the chair of the SCOPE-CM Executive Panel, given the resignation of the previous chair in March 2014, if possible by July 2014.	Successor nominated: Ed Kearns (NOAA NCDC)	10-Oct-14
RECOMMENDATION 8.18: WMO TCP and WWRP consider holding a second International Workshop on Satellite Analysis of Tropical Cyclones.		15-Jul-14
RECOMMENDATION 8.19: NOAA NESDIS to consider using an extended check-out period to make GOES-R data available on a pre-operational basis.		15-Jul-14

RECOMMENDATION 8.20: NOAA NESDIS and NWS participate in the RA III session in Sep 2014 (Asuncion, Paraguay), in particular to inform on the plans for GOES-R and GEONETCast-Americas.		Done. Presentation by Steve Goodman	10-Oct-14
RECOMMENDATION 8.21: NOAA NESDIS, in collaboration with international partners, to develop a GOES-R preparation project for users in RA III and RA IV (outside the US).			15-Jul-14
RECOMMENDATION 8.22: T. Mostek and CIRA to facilitate organization of GOES-R related events through the VLab and dedicated user conferences, such as the 2015 NOAA Satellite Conference.		Underway.	3-Mar-14
RECOMMENDATION 8.23: EUMETSAT and CMA to closely coordinate the exploitation plans for MTG IRS and FY-4A GIRS, given the particular challenges associated with these instruments.		CGMS-43 discussion	15-Jul-14
RECOMMENDATION 8.24: CGMS WG II should discuss common approaches to the exploitation of instruments on the new generation of geostationary satellites where these instruments have similar characteristics.		CGMS-43 discussion	15-Jul-14
RECOMMENDATION 8.25: The Team recommended that all satellite operators provide timely and relevant information to SATURN.		Ongoing.	10-Oct-14
RECOMMENDATION 8.26: Secretariat to add a timestamp to each posting in SATURN.		Done.	10-Oct-14
RECOMMENDATION 8.27: ET-SUP should consider developing a guideline on what minimum set of satellite data should be considered essential, and add this as an item for the next session of the Team.		IPET-SUP-1 Item 5.5	3-Mar-15
RECOMMENDATION 8.28: The Team recommended participation by its Members and the Secretariat in the CGMS SETT.		Done (Richard Eckman; Stephan Bojinski)	3-Mar-15
RECOMMENDATION 8.29: Taking note of the successful completion of the first phase of the project 'Conceptual Models for the Southern Hemisphere', the Team encouraged the conduction of a second phase (starting in autumn 2014)."			15-Jul-14
RECOMMENDATION 8.30: The Team recommended that the proposal by ROSHYDROMET to nominate as new VLab co-chair Prof. Grigory Chichasov, Director of the WMO Regional Training Centre in the Russian Federation, and Mr Eduard Podgaiskiy from the Russian State Hydrometeorological University as his assistant be favourably considered by CGMS.		Done. Endorsed by CGMS and VLMG	10-Oct-14
RECOMMENDATION 8.31: The Team encouraged CMA to work with the VLab to make recordings of classroom lectures available online.		Raised at VLMG-7	3-Mar-15
RECOMMENDATION 8.32: WMO TCP to consider a review of the list of satellite data used in regional tropical cyclone centres to evaluate and identify any missing sources of useful data and, where needed, train centre staff in the use of new sensor data.		Survey underway among RSMC-TCs	3-Mar-15
RECOMMENDATION 8.33: WMO TCP to consider a review of the notification procedures between regional tropical cyclone centres and the affected NMHSs to identify potential enhancements, including the possibility to request additional information.		Survey underway among RSMC-TCs	3-Mar-15
RECOMMENDATION 8.34: ET-SUP could follow the activities of groups like International Charter and the new CEOS Working Group on Disasters to identify potential best practice which could be applied within the meteorological community (users and satellite operators).		Have report at ET-SUP-9	15-Jul-14
RECOMMENDATION 8.35: VLab to support recording and archiving of workshop material from COSPAR/VLab events.		Raised at VLMG-7, with action to "Establish a VLab Dropbox to keep training material that cannot be hosted and shared by CoEs, and to evaluate options for long-term archiving of recorded lectures." by Mar 2015	3-Mar-15
RECOMMENDATION 8.36: WMO SP to prepare a working demonstration of PAG in time for the WMO Executive Council meeting in June 2014.		Done	10-Oct-14
RECOMMENDATION 8.37: CGMS operators to set up stable URLs of their satellite product collections as per the Product Access Guide concept.		Ongoing.	3-Mar-15
RECOMMENDATION 8.38: Dissemination service operators should explore ways that one operator could disseminate regionally-relevant WMO-related products in a Region, such as in support of SCOPE-Now casting in RA II, on behalf of other operators.		Part of SCOPE-Now casting discussion in item 8 of IPET-SUP-1	3-Mar-15